Amended Paragraph at Page 2, lines 10-21:

Several peptides isolated from *Conus* venoms have been characterized. These include the α-, μ- and ω-conotoxins which target nicotinic acetylcholine receptors, muscle sodium channels, and neuronal calcium channels, respectively (Olivera et al., 1985). A conotoxin, TxVIIA, containing a γ-carboxyglutamate residue and three disulfide bonds has been isolated (Fainzilber et al., 1991). Conopressins, which are vasopressin analogs, have also been identified (Cruz et al.. 1987). In addition, peptides named conantokins have been isolated from *Conus geographus* and *Conus tulipa* (Mena et al., 1990; Haack et al., 1990). These peptides have unusual age-dependent physiological effects: they induce a sleep-like state in mice younger than two weeks and hyperactive behavior in mice older than 3 weeks (Haack et al., 1990). Recently, peptides named contryphans containing D-tryptophan or D-leucine residues have been isolated from *Conus radiatus* (U.S. Serial No. 09/061,026), and bromo-tryptophan conopeptides have been isolated from *Conus imperialis* and <u>*Conus radiatus* (U.S. Serial No. 08/785,534)</u>.

B1

Amended Paragraph at Page 2, line 22 - page 3, line 2:

Ion channels are integral plasma membrane proteins responsible for electrical activity in excitable tissues. It has been recognized that slow inward currents can influence neuronal excitability via long-lasting depolarizations of the cell membrane (Llinás, 1988). The role of slow inward currents in generating endogenous bursting behavior has been recognized in molluscan neurons (Wilson & Wachtel, 1974; Eckert & Lux, 1976; Partridge et al., 1979), and more recently in some types of mammalian neurons (Lanthorn et al., 1984; Stafstrom et al., 1985; Llinàs, 1988; Alonso & Llinàs, 1989). Changes in the slow inward currents carried by such nonspecific cation channels may play a crucial role in bursting and pacemaker activities in a variety of excitable systems, ranging from mammalian heart muscle to molluscan neurons (Partridge & Swandulla, 1988; Hoehn et al., 1993; Kits & Mansvelder, 1966; van Soest & Kits, 1997). Slow inward currents are also believed to be important in generating epileptiform bursting in regions of the brain such as the hippocampus.

B2

B

Clean Copy of Amended Claims

20 (amended). A substantially pure conopeptide selected from the group consisting of:

(a) PnVIIA: Asp-Cys-Thr-Ser-Xaa$_1$-Phe-Gly-Arg-Cys-Thr-Val-Asn-Ser- Xaa$_2$-Cys-Cys-Ser-Asn-Ser-Cys-Asp-Gln-Thr-Tyr-Cys-Xaa$_2$-Leu-Tyr-Ala-Phe-Xaa$_3$-Ser (SEQ ID NO:6);

(b) Tx6.4: Xaa$_1$-Leu-Xaa$_2$-Cys-Ser-Val-Xaa$_1$-Phe-Ser-His-Cys-Thr-Lys-Asp-Ser-Xaa$_2$-Cys-Cys-Ser-Asn-Ser-Cys-Asp-Gln-Thr-Tyr-Cys-Thr-Leu-Met-Xaa$_3$-Xaa$_3$-Asp-Xaa$_1$ (SEQ ID NO:7);

B3

(c) Tx6.9: Xaa$_1$-Xaa$_1$-Arg-Xaa$_1$-Gly-Gly-Cys-Met-Ala-Xaa$_1$-Phe-Gly-Leu-Cys-Ser-Arg-Asp-Ser-Xaa$_2$-Cys-Cys-Ser-Asn-Ser-Cys-Asp-Val-Thr-Arg-Cys-Xaa$_2$-Leu-Met- Xaa$_3$-Phe-Xaa$_3$-Xaa$_3$-Asp-Xaa$_1$ (SEQ ID NO:8);

(d) Tx6.6: Asp-Xaa$_1$-Xaa$_1$-Asp-Asp-Gly-Cys-Ser-Val-Xaa$_1$-Gly-Xaa$_3$-Cys-Thr-Val-Asn-Ala-Xaa$_2$-Cys-Cys-Ser-Gly-Asp-Cys-His-Xaa$_2$-Thr-Cys-Ile-Phe-Gly-Xaa$_1$-Xaa$_2$-Val (SEQ ID NO:10);

Sub C1

(e) Tx6.5: Gly-Met-Xaa$_1$-Gly-Xaa$_2$-Cys-Lys-Asp-Gly-Leu-Thr-Thr-Cys-Leu-Ala-Xaa$_3$-Ser-Xaa$_2$-Cys-Cys-Ser-Xaa$_2$-Asp-Cys-Xaa$_2$-Gly-Ser-Cys-Thr-Met-Xaa$_1$(SEQ ID NO:11);

(f) Gm6.7: Xaa$_2$-Cys-Arg-Ala-Xaa$_1$-Tyr-Ala-Xaa$_3$-Cys-Ser-Xaa$_3$-Gly-Ala-Gln-Cys-Cys-Ser-Leu-Leu-Met-Cys-Ser-Lys-Ala-Thr-Ser-Arg-Cys-Ile-Leu-Ala-Leu (SEQ ID NO:12);

(g) Mr6.1: Asn-Gly-Gln-Cys-Xaa$_2$-Asp-Val-Xaa$_1$-Met-Xaa$_3$-Cys-Thr-Ser-Asn-Xaa$_1$-Xaa$_2$-Cys-Cys-Ser-Leu-Asp-Cys-Xaa$_2$-Met-Tyr-Cys-Thr-Gln-Ile (SEQ ID NO:13);

(h) Mr6.2: Cys-Gly-Gly-Xaa$_1$-Ser-Thr-Tyr-Cys-Xaa$_2$-Val-Asp-Xaa$_2$-Xaa$_2$-Cys-Cys-Ser-Xaa$_2$-Ser-Cys-Val-Arg-Ser-Tyr-Cys-Thr-Leu-Phe (SEQ ID NO:14); and

(i)Mr6.3: Asn-Gly-Gly-Cys-Lys-Ala-Thr-Xaa$_1$-Met-Ser-Cys-Ser-Ser-Gly-Xaa$_1$-Xaa$_2$-Cys-Cys-Ser-Met-Ser-Cys-Asp-Met-Try-Cys (SEQ ID NO:15),

B

Sub C1

B3 wherein Xaa_1 is Trp or 6-bromo-Trp; Xaa_2 is Glu or γ-carboxyglutamic acid (γ-Glu); and Xaa_3 is Pro or hydroxy-Pro (Hyp).

2 ~~27~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is PnVIIA (SEQ ID NO:6) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

3 ~~28~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Tx6.4 (SEQ ID NO:7) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

B4

4 ~~29~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Tx6.9 (SEQ ID NO:8) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

5 ~~30~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Tx6.6 (SEQ ID NO:10) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

31 (amended). The conopeptide of claim 20, wherein the conopeptide is Tx6.5 (SEQ ID NO:11) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

6 ~~33~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Gm6.7 (SEQ ID NO:12) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus has a free carboxyl group.

B5

53

B

7 ~~34~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Mr6.1 (SEQ ID NO:13) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu, Xaa_3 is Hyp and the C-terminus is amidated.

B5

8 ~~35~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Mr6.2 (SEQ ID NO:14) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu and the C-terminus is amidated.

9 ~~36~~ (amended). The conopeptide of claim 1 ~~20~~, wherein the conopeptide is Mr6.3 (SEQ ID NO:15) and wherein Xaa_1 is Trp, Xaa_2 is γ-Glu and the C-terminus is amidated.

B